# Volume for Infineon's 1310nm VCSELs

Infineon has refined its long wavelength VCSEL technology to a point where it can begin high-volume manufacture. The 1310nm VCSEL diode, operating in an iSFP transceiver module at 2.5 Gbit/s was demonstrated at the Atlanta OFC Conference. The VCSEL is now sampling to customers and high volume production will commence in the second half of 2003.

Infineon's surface light emission VCSELs use a thin shrink small outline package (TSSOP) and includes an LC coupling unit and a flex-board electrical connection, which gives significant cost savings. At 1310nm it allows 10km transmission distances. Currently Infineon produces 850nm VCSELs in volume, which dominates short reach applications up to 300m. Longer wavelength devices have to date been edge emitters for power and reliability.

Martin Schell, director of Infineon's Fiber Optic Components business unit says: "Our experience and high-volume capability enable us to ensure reliability of our 1310nmVCSEL right from the beginning."

The iSFP transceiver modules provide a digital diagnostics monitoring interface that allows real-time access to such operating parameters as laser bias current, transmitted optical and received optical power, internal transceiver temperature and supply voltage. Also featured are internal calibration of measurements over operating temperature, built-in alarm and warning threshold sensors that allow the user to determine when a particular value is outside its operating range.

# Violet lasers coming to market

Sony is to release a violet laser DVD recorder, storing up to 23Gb of data on discs priced at Y3500 ($30) each. The new recorder will use the format developed by the Blu-Ray consortium, of which Sony is a founder member. Sony formed an alliance with Nichia to develop nitride-based semiconductor lasers for the Blu-ray disc recording format, with both companies planning to start mass production by spring 2003.

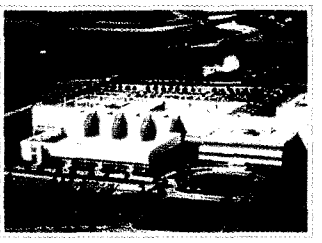
Sony's new machine, to be available in Japan from mid-April, will price at ¥450,000 ($3,800) in contrast to red laser DVDs at ¥50,000-70,000 ($420-590). The recorder can pack a two-hour high-definition TV programme onto a single Blu-Ray disc. Sony's Blu-ray machine will be able to play red-laser discs using the DVD-R and DVD-RW formats only.

Toshiba is promoting an alternative to Blu-Ray, which it says will be less expensive and more compatible with existing recorders. Toshiba aims to have its violet-laser recorder on the market in a year.

# Scotland's optopack Centre

A packaging concept developed by a Microelectronics, Optoelectronics and Communications Technology cluster, is to become a £4.2m ($6.75m) facility in Livingston, Scotland. It will specialise in development of processes to handle delicate optoelectronic device circuitry in protective packaging to interface via optical fibers and electronic connections. David Waring, director of MOCT, said: "Scotland has an excellent reputation in the field of optoelectronics. The facility will provide very practical assistance to start-up and spin-out companies."

The Centre is being developed with the Scottish Optoelect - ronics Association, (SOA) and is designed to assist in bridging the gap between design and manufacturing qualification of optoelectronic devices. Funding comes from Scottish Enterprise and the European Regional Development Fund. The Centre will also develop solutions transferable to other emerging technologies, such as life sciences, where biochips will play an increasingly important role. Establishing a facility with specialist capability in packaging technologies will accelerate commercialisation of university research and help create and support high-growth start-up companies. Chris Gracie, CEO of SOA, said: "The Centre will support the design for manufacture stage in the creation chain."



*Scotland's new Design Centre's location is unknown. A University is the most likely alliance.*

It will also complement the work of the Intermediate Technology Institutes, raising Scotland's competitiveness by supporting business R&D in key global growth sectors. The Centre will assist commercialisation of R&D; speed route to market; develop new packaging technologies; and provide test, reliability and qualification services.

# Manufacturing partnership

Colorado based Picolight has signed a manufacturing partnership with Pemstar. This enables Picolight to expand its manufacturing capacity for Accelar and Extensus fiber-optic tranceivers.

"Pemstar's capabilities extend our ability to meet customer demand for transceivers in the key, fast-growing segments of the fiber-optic market," said John McMunn, VP of transceiver R&D and operations for Picolight. Picolight will continue to manufacture the key optical sub-components in Boulder. These elements are assembled by Pemstar and tested to Picolight's standards. The company has already transferred manufacturing for a number of its transceiver products to Pemstar's Bangkok facilities.

Picolight has also added eight products to its family of 1310nm SFF and SFP fiber-optic transceivers for access and metro networks, and its first products for the Synchronous Optical Network market.

Expanding the company's offering, these new products range in speed from 100 Mbit/s to 2.488 Gbit/s over distances of 2-15 km and support features such as digital diagnostics.